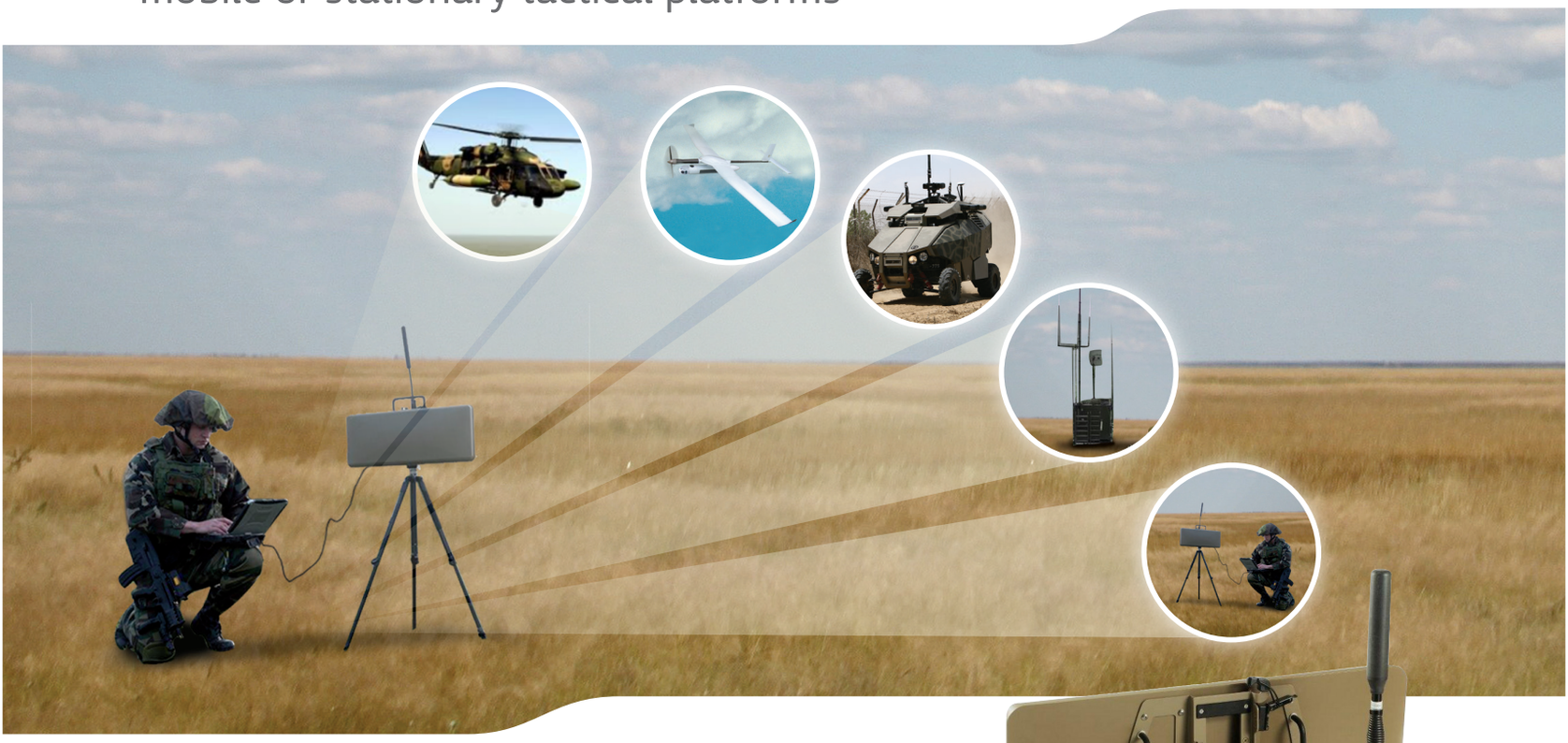
ADL – Advanced Data Link

Versatile data link offering secure multi-point communications for mobile or stationary tactical platforms



The proliferation of both manned and unmanned sensors in the modern battle space has made robust, secure, multi-point communications a key requirement for mission success. Elbit Systems' Advanced Data Link (ADL) is a unique software-defined architecture that enables secure and immune (ECCM) communications for mobile or stationary tactical platforms.

Developed with Elbit Systems' decades of experience in network-enabled land C4I solutions, the lightweight ADL transmits and receives tactical data at a range of up to 160 km. With automatic link establishment and extremely high throughput, the ADL effectively combines airborne, land-based and maritime sensors to create a common tactical picture.

Elbit Systems
Land and C4I

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Lightweight components for effective operation – With a best-in-class SWaP, Elbit Systems' ADL is comprised of three main components: a compact airborne data link terminal (ADT), a ground data link terminal (GDT) for static and mobile ground operation, and a remote video-transceiver (RVT) hand-held. The system combines command and control capabilities to manipulate the platform and payload, and can be operated and configured from a standard PC.

Reliable and versatile digital data link communications - ADL offers operators continuous IP networking for a wide range of mobile and stationary tactical scenarios. ADL is being used effectively to provide secure voice, video and data communications between point-to-point, point-to-multipoint and relay applications.

High throughput data rate - The ADL enables the transmission and reception of compressed video, telemetry and control packets at high data rates of up to 9 Mbps between multiple segments. All the data types are merged into one stream that can be encrypted and transmitted by the data link using standard IP protocols.

Technical Specifications

Waveform	WBWF
Frequency range	1400-1600 MHz 400-6000 MHz optional
Frequency stability	1 ppm
Channel spacing	1 MHz
Bandwidth	4 MHz
Data rate	1-9 Mbps
Encryption	AES-256
Modulation	GMSK, QAM, OFDM
Transmit power	1 W (optional External PA)
GPS	Built-in (RVT/GDT)
Video compression	H.264 (ADT)
Interfaces	Ethernet, RS-232, composite video (ADT)
Operating temperature	-40° to + 70° Celsius
Environmental	MIL-STD-810E
EMC	MIL-STD-461F
Water immersion	3 m (RVT)
RF input	Dual antennas
Antenna	Omni, directional
Weight	ADT - 380 g RVT - 1.2 Kg
Size	ADT - 134x92x68 mm RVT - 115x59x216 mm
Input voltage	12-32 Volt DC
Power consumption	8-12 W

Features

- Highly versatile data link for tactical platforms
- Software-defined architecture
- Suitable for mobile or stationary platforms
- Automatic link establishment
- Fully digitized point-to-multipoint video transmissions
- High throughput rate
- Configurable operation through PC
- Tested range up to 160 km
- Best-in-class SWaP

Operational scenarios

- Air-to-ground data link: combines mission and C^2 capabilities
- UAV data link: remains connected up to a range of 160 km
- UGS data link: for net-centric mobile ground operations
- Point-to-point data link: secure communications in multiple tactical scenarios
- Point-to-multipoint data link: the utmost in tactical versatility

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Elbit Systems Land and C4I Ltd.
2 Ha'machshev St., Netanya 42507, Israel
E-mail: landc4i@elbitsystems.com www.elbitsystems.com/landc4i

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